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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/762,060

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Min Chu

M61.12-0594

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27366

7590

09/15/2009

WESTMAN CHAMPLIN (MICROSOFT CORPORATION)

SUITE 1400

900 SECOND AVENUE SOUTH

MINNEAPOLIS, MN 55402

EXAMINER

SHAH, PARAS D

ART UNIT

PAPER NUMBER

2626

MAIL DATE

DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/762,060	<b>Applicant(s)</b> CHU ET AL.	
	<b>Examiner</b> PARAS SHAH	<b>Art Unit</b> 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,5,6,9,12-14,17-20,22-24 and 29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1, 5, 6, 9, 12-14, 17-20, 22-24, 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This communication is in response to the Amendments and Arguments filed on 07/06/2009. Claims 1, 5, 6, 9, 12-14, 17-20, 22-24, and 29 are pending and have been examined. The Applicants' amendment and remarks have been carefully considered and are persuasive. However, a plurality of objections exist for which corrections are required.
2. All previous objections and rejections directed to the Applicant's disclosure and claims not discussed in this Office Action have been withdrawn by the Examiner.

### ***Continued Examination Under 37 CFR 1.114***

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/06/2009 has been entered.

### ***Claim Objections***

4. Claim 1 and 20 are objected to because of the following informalities: The claims should be properly broken down into a preamble and body (see 608.01(i) [R-3] and 37 CFR 1.75. Claims). Appropriate correction is required.

5. Claim 1, 20 , and 29 are objected to because of the following informalities: The limitation of "wherein the different levels of pitch comprise at least two discrete categorical levels, and wherein each portion has a categorical level associated with it." should be changed to --wherein the different levels of pitch comprise at least two discrete categorical levels, and wherein each portion has a **discrete** categorical level associated with it.—The change is required as it particularly points out the discrete level associated with each portion consistent with the prior limitation of the claims. Appropriate correction is required.

6. Claim 5, 6, 12, 13, 14, 22, and 23 are objected to because of the following informalities: For example, in claim 5, the limitation of " wherein the different levels of pitch comprise three categorical levels, and wherein each portion has a categorical level associated with it" should be changed to -- wherein the different levels of pitch comprise three **discrete** categorical levels, and wherein each portion has a **discrete** categorical level associated with it —The change is required as it particularly points out the discrete level associated with each portion consistent with the limitations found in the independent claims 1 and 20 and with respect to the Applicants' Remarks and Allowable Subject Matter explained below. Appropriate correction is required.

#### ***Allowable Subject Matter***

7. The following is an examiner's statement of reasons for allowance: None of the prior art references either alone or in combination thereof teach the limitation of "the final part comprises a first temporal portion corresponding to a first relative pitch and a

second temporal portion corresponding to a second relative pitch ... and wherein the different levels of pitch comprise at least two discrete categorical levels, and wherein each portion has a categorical level associated with it.”

The closest prior art of record Chen (US 5,751,905) teaches a speech recognition using toned phoneme. Particularly, Chen teaches a speech processing system receiving an input related to one of speech and process the input to provide an output related to one of text (see Figure 6, input into microphone 600, the output of related information would have been obvious to Chen as the system is for use in speech recognition), the speech processing system (see col. 6, lines 26-36) accessing a module (see col. 3, lines 61-col. 4, lines 8, observations used within the toned phoneme system) derived from a phone set having a plurality of phones for a tonal language (see col. 4, lines 41-44, initials with glides and a second part (final)), wherein the tonal language comprises a plurality of different tones with different levels of pitch (see col. 4, lines 31-35, each tone has an associated pitch contour) the phones being used to model syllables used in the module (see col. 6, lines 42-45), the syllables having an initial part and final part (see col. 6, lines 42-45), wherein at least some of the syllables of the tonal language include a glide, the glide being embodied in the initial part (see col. 4, lines 42-43, glide is grouped with the initial) and wherein the final part comprises a first temporal portion corresponding to a first relative pitch and a second temporal portion corresponding to a second relative pitch, wherein the first portion and the second portion jointly and implicitly carry the tonal information (see col. 4, lines 10-13 and col. 4, lines 42-45, the pitch contour varies with time so the pitch changes relative to

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the portion of the phone i.e. if the phoneme is associated with a rising pitch contour, such a contour is representing a pitch increasing from a base value); and wherein the different levels of pitch comprises at least two categorical levels (see col. 4, lines 33-35, five types of tones), and wherein each portion has a categorical level associated with it (see col. 4, lines 10-15, pitch varies with time and represents a pitch contour. The contour consists of different level or values with respect to time). However, Chen fails to teach the Final portion, which comprises two sections, each having an associated discrete categorical level as claimed since Chen teaches a single tone representation for the Final portion.

Chen ("Recognize Tone Languages using Pitch Information on the Main Vowel of each Syllable") teaches the use of a five level tone system for each tone type being characterized by levels. However, Chen fails to teach the Final portion, which comprises two sections, each having an associated discrete categorical level as claimed since Chen teaches a single tone representation for the Final portion.

Further, Hon et al. (US 5,680,510) teaches generation of sub syllable models for a tonal language, specifically Mandarin Chinese, where models for initials, finals, and the tone of the syllable is stored (see Abstract). However, Hon et al. fails to teach the Final portion, which comprises two sections, each having an associated discrete categorical level as claimed since Chen teaches a single tone representation for the Final portion.

Huang *et al.* ("Whistler: A trainable Text-to-Speech System", 1996) teaches the conversion of text to speech from learning methods of model parameters (see Abstract).

However, Huang fails to teach the Final portion, which comprises two sections, each having an associated discrete categorical level as claimed since Chen teaches a single tone representation for the Final portion.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kaye et al. (US 5,623,609) is cited to disclose phonology-based automatic speech recognition.

The NPL document by Fujisaki et al. ("Analysis and Modeling of Tonal Features in Polysyllabic words and Sentences of the Standard Chinese") is cited to disclose modeling of tonal features in polysyllabic words for Chinese.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PARAS SHAH whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:30a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (571)272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R Hudspeth/  
Supervisory Patent Examiner, Art Unit 2626

/Paras Shah/  
Examiner, Art Unit 2626

09/11/2009